

Wilson Hollow Road Bridge
(Vineland Road Bridge)
Spanning Big River at Wilson Hollow Road
Vineland vicinity
Jefferson County
Missouri

HAER No. MO-72

HAER
MO
50-VILA.V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
U.S. Department of the Interior
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HISTORIC AMERICAN ENGINEERING RECORD

Wilson Hollow Road Bridge
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Location: Spanning Big River at Wilson Hollow Road, 1.5 miles southwest of the village of Vineland, Jefferson County, Missouri

UTM: Zone 15 N4216700 E709170
Quad: Tiff (7.5 minute series)

Date of Construction: 1905-1906
1911 - Major repairs made by Stupp Brothers Bridge and Iron Company

Builder: Joliet Bridge and Iron Company

Present Owner: Jefferson County
County Courthouse
Hillsboro, Missouri

Present Use: Vehicular bridge

Significance: Of the thirty pin-connected Parker through truss bridges remaining in Missouri in 1990, only five had longer main spans and only one is older than the Wilson Hollow Road Bridge. Significance is thus based on the rarity, age and scale of its truss design in Missouri.

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I. HISTORY

Post-1900 bridge records for Jefferson County, located in the county clerk's office, are very sketchy and extremely abbreviated. The bridge was constructed at the mouth of Wilson Hollow and named after the Wilson family who originally homesteaded the hollow on the south side of Big River.¹ The Wilson family eventually acquired land on both sides of the river. A private road with a ford was developed between the Wilson properties on each side of Big River. By 1900, the road had become a convenient route for the general public and gained the name "Wilson Hollow Road."² Since the road had become a public thoroughfare, several citizens outside the Wilson family petitioned the county to construct a bridge to replace the ford.³ A bridge would require higher ground than a ford, which, in turn, would require a new road alignment of the Wilson Hollow Road through the Wilson family farms. The Wilson family was opposed to this.⁴ The bridge was eventually built during 1905 and 1906, and a new road right-of-way successfully negotiated.⁵

Although the bridge has occasionally been called the Vineland Bridge; the local names and names on maps call it Wilson Hollow Road Bridge. Further, no significant connection could be found between the road and the village which developed along the railroad and in connection with the local mining industry.⁶

Specific county records, which contain information regarding the bridge, beginning with page 381, dated Thursday, August 19, 1905. It contains the order to the County Road and Bridge Commissioner to commence a survey for the proposed road and bridge and to make the proper legal arrangements with the land owners and with the St. Francois County Court for securing a 30-foot-wide right-of-way easement. The second record appears on the same page and consists of the report on that survey by a J. B. Dove, Special Bridge Commissioner. This report includes:

- * the bid offering for the construction of a steel bridge with a 190-foot main span;
- * the results of the bid letting, with Joliet Bridge & Iron Company winning the contract with its low bid of \$4,200;
- * the deposit of \$2,000 into the Jefferson County Road and Bridge Fund by the St. Francois County Commission toward the completion of the project.
- * the order to approve the Joliet Company bid and to enter into a contract with said company for the completion of the bridge by January 15, 1906, with a forfeiture of \$5.00 per day after that date and with a clause "to keep said bridge in repair for four years."

The third record for the bridge is found in County Record Book 9, beginning on page 611, dated November 5, 1906, and consists of a road petition to complete road construction through the farms of James, Charles, Frank, Eugene, Emily, and Amelia Wilson and of Blanch Coddington, who were refusing to grant the right-of-way. A court order directed the commissioner to personally go out and meet with the landowners and offer up for damages \$100 to James Wilson and \$12.50 to each of the other parties, and to complete the road for not more than \$200, including grading and culverts. The petition does not

give reasons why a bridge was needed at this particular location, but it might be assumed that it was because there were no other bridges within a 2.50-mile radius of the proposed bridge in the early 1900s and very few roads connecting Jefferson County and St. Francois County.⁷

The final record concerning the new bridge is found in County Record Book 10, pages 92-93, dated May 6, 1907, and consists of the final damage payment agreements between the landowners and the new county commissioners of \$257.27 to James Wilson and \$21.18 to each of the other parties.

The problem of securing a road right-of-way on the Jefferson County side of the bridge suggest that need for the bridge was not universally agreed upon, and that probably more than local interests may have been involved in the decision to have Wilson Hollow Road Bridge constructed.

Three records in the county files suggest that the original completion date was adhered to.⁸ These records chronicle a major repair to the bridge by Stupp Brothers Bridge and Iron Company of St. Louis for \$1,823.00, beginning on June 5, 1911. Subtracting the four years following completion of the bridge, during which Joliet Bridge and Iron Company was contracted to make such repairs, puts the completion date between January 15, 1906, and June 5, 1907, allowing for a reasonable period of time for damage requiring repair to develop and thus suggesting a completion date near the original contract date.

II. THE BRIDGE

The Wilson Hollow Road Bridge has a steel 190' long by 18' 5" wide by 32' high, 10-panel, pin-connected Parker through truss main span. The approach spans are steel stringer decks with outwardly braced double side rails. It has a 24' northern approach span and three southern approach spans skewed to the west, beginning with a 25' 4" span, than a 24' 10" span; the third span connecting with the main span is 22' 5" long on the west and 24' 5" on the east. This gives a total bridge length along the center line of 287' 7". The bridge has 15' 7" horizontal clearance and 16' 7" vertical clearance. The main span is supported by 4" 6" diameter filled steel cylinders, and the approach spans are supported by concrete abutments and piers.

The components and dimensions of the main span (where components are symmetrical, only the northern half of the main span is described) consist of 9" x 14" plate over webbed channels, top chords and inclined end posts. The bottom chords of the first two panels are paired 3/4" x 2-1/2" flat eye bars; the fourth panel has paired 7/8" by 3-1/2" eye bars; and the fifth panel has paired 1" x 4" flat eye bars. The verticals are 5" x 9-3/8" webbed channels, with the webbing facing the stream. The hip diagonals are paired 5/8" x 2-1/2" flat eye bars. The diagonals of the third and fourth panels are 1/2" x 1-1/2" paired flat eye bars. The diagonals of the fifth panel are 1/2" x 2" paired flat eye bars. Only the fourth and fifth panels are counter-braced, the fourth panel with 3/4" round eye bars and the fifth panel with 7/8" round eye bars. The struts and portal bracing are formed by 3" x 4" angles paired, back to back. The sway bracing is accomplished with 2" x 3" angles across both diagonals and the vertical. The top lateral bracing is 3/4" round eye bar. The bottom lateral bracing is 1-1/2" round eye bar. The floor beams are 16" I-beams, and there are seven 8" I-beam stringers with an 8" channel on either edge. The deck is 5" to 6" thick oak planking with asphaltic aggregate cover.

The bridge displays industry-standard detailing for a truss of its configuration and vintage. Pinned Parker trusses were used primarily for county-road crossings that required a span length between 150 feet (below which a straight-chorded Pratt truss would function more economically) and 200 feet (beyond which a Pennsylvania truss, with its greater web rigidity, was typically used). They found their heyday in Missouri between 1900 and 1920.⁹

III. JOLIET BRIDGE AND IRON COMPANY

The Joliet Bridge and Iron Company of Joliet, Illinois, does not appear to have been a major player in the bridge construction and repair business in Jefferson County, Missouri, during the time they were operative in the county. There are only a few other entries for the bridge company in the county records during the period 1904 to 1908. On the basis of number of bridge contracts, the major bridge builder in Jefferson County around the turn of the century was Stupp Brothers Bridge and Iron Company of St. Louis.¹⁰ Darnell notes that Joliet Bridge and Iron Company began in 1898.¹¹ By 1904, Joliet Bridge and Iron Company had a representative located in St. Louis by the name of Max J. Frey who was involved in bridge construction and repair contracts carried by Joliet Bridge and Iron Company.¹² In 1908, the president of the company was Robert C. Morrison and F. C. H. Arentz was chief engineer.¹³ An earlier review of state and county histories produced no evidence that these and other Joliet Bridge and Iron Company officers were major figures in local or regional history.¹⁴

IV. THE PROJECT

In May 1990, a Determination of Eligibility (DOE) was signed by the Missouri Department of Resources, stating that the Wilson Hollow Road Bridge is eligible for inclusion in the National Register of Historic Places.¹⁵ The present study has been carried out in order to meet the Memorandum of Agreement (MOA) developed among the Federal Highway Administration, the Missouri State Historic Preservation Office, and the Advisory Council on Historic Preservation. Wilson Hollow Road Bridge will be demolished and a new bridge constructed in the same location.

VI. ENDNOTES

1. Dale Wilson, interview by John Carrel, March 10, 1992. Written notes, Environmental Research Center, Jefferson City, Missouri.
2. Jefferson County, Plat Map, 1904. Special Collections, State Historical Society of Missouri, University of Missouri, Columbia. St. Francois County, Plat Map, 1907, Special Collections, State Historical Society of Missouri, University of Missouri, Columbia.
3. Jefferson County, Plat Map, 1904.
4. Jefferson County, County Court Record, August 19, 1905.
5. Jefferson County, County Court Record, November 5, 1906.

6. Anonymous, History of Franklin, Jefferson, Washington, Crawford, and Gasconade Counties, Missouri (Chicago: Goodspeed Publishing Company, 1888), p. 445. H. L. Conard, Encyclopedia of the History of Missouri. St. Louis: Southern History Company, 1901), pp. 321-323.
7. Plat Map, 1904.
8. Jefferson County, County Court Record, June 5, 1911. County Court Record, August 12, 1911. County Court Record, September 6, 1911.
9. Determination of Eligibility Statement, Vineland Bridge, Missouri State Historic Preservation Office, Jefferson City, Missouri, May 10, 1990.
10. County Court Record, 1895-1915.
11. Victor Darnell, Directory of American Bridge Building Companies 1840 to 1900. Washington, D.C.: The Society for Industrial Archaeology, 1984, p. 13.
12. County Court Record, 1905. St. Charles, County Court Record, 1904-1908.
13. Joliet Bridge and Iron Company letterhead stationary, in possession of Clay Fraser, Loveland, Colorado.
14. Craig Sturdevant, HAER No. MO-57, Defiance Road Bridge, Library of Congress.
15. Determination of Eligibility Statement, Vineland Bridge, May 10, 1990.

VI. BIBIOGRAPHY

A. Books

Anonymous. History of Franklin, Jefferson, Washington, Crawford, and Gasconade Counties, Missouri. Chicago, Illinois: Goodspeed Publishing Company, 1888.

Conard, H. L. Encyclopedia of the History of Missouri. St. Louis, Missouri: The Southern History Company, 1901.

Darnell, Victor. Directory of American Bridge-building Companies 1840 to 1900. Washington, D.C.: The Society for Industrial Archaeology, 1984.

B. Others

Determination of Eligibility Statement, Vineland Bridge, Missouri State Historic Preservation Officer, Jefferson City, Missouri, May 10, 1990.

Jefferson County, County Court Record. Hillsboro, Missouri. 1895 through 1915.

Jefferson County, Plat Map. 1904 [photocopy]. Special Collections, State Historical Society of Missouri, University of Missouri, Columbia.

St. Francois County, Plat Map. 1907 [photocopy]. Special Collections, State Historical Society of Missouri, University of Missouri, Columbia.

Sturdevant, Craig, Historic American Engineering Record, No. MO-57, Defiance Road Bridge. Library of Congress.

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